

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1 - 7 (Cancelled).

8. (Currently Amended) A method of initialization for a multitone system, comprising:

~~(a)~~ comparing upstream and downstream data rates for a two-band duplex to threshold data rates; and

~~(b)~~ when said data rates fail to meet said threshold data rates in step (a), comparing data rates for a hybrid duplex to said threshold data rates, wherein said hybrid duplex uses hyperframes with structure:

~~(i) for each n where n is an integer with $1 \leq n \leq N$ and N is an integer greater than~~

~~2, a first sequence of n first frames~~ set of symbols, referred to as a type 1

symbols, for transmission in a first direction in a first set of subchannels and

transmission in a second direction in a second set of subchannels where said first

and second directions differ and said first and second sets are different; and

~~(ii) a second sequence of at least $N-2n$ second frames for transmission in said second~~

~~direction in both said first set and said second set of subchannels~~ set of symbols,

referred to as a type 2 symbols, where transmission is only in the first direction in

the first set of subchannels; and

a third set of symbols, referred to as a type 3 symbols, where transmission is only in the

first direction in subchannels different from that of the set of subchannels used for

type 2 symbols.

9. (New) An article of manufacture in the form of a hyperframe for use in a communication system including a plurality of processor circuitry operable to provide a discrete multitone system, said article of manufacture comprising:

a first set of symbols, manufactured by the plurality of processor circuitry from the data bits input, the first set of symbols referred to as a type 1 symbols, where transmission is in a first direction using a first direction set of subchannels and second direction using a second direction set of subchannels;

a second set of symbols, manufactured by the plurality of processor circuitry from the data bits input, the second set of symbols referred to as a type 2 symbols, where transmission is only in the first direction using the first direction set of subchannels; and

a third set of symbols, manufactured by the plurality of processor circuitry from the data bits input, the third set of symbols referred to as a type 3 symbols, where transmission is only in the first direction using subchannels different from that of the set of subchannels used for type 2 symbols,

wherein the total of symbols is N symbols comprised of n1 type 1 symbols, n2 type 2 symbols and n3 type 3 symbols, where $n1 + n2 + n3 = N$.

10. (New) The article of manufacture of claim 9, wherein the set of subchannels used by the type 2 symbols for transmission in the first direction does not include the set of subchannels used for transmission in the second direction by the type 1 symbols

11. (New) The article of manufacture of claim 9, wherein the set of subchannels used by the type 3 symbols for transmission in the first direction includes the set of subchannels used for transmission in the second direction by the type 1 symbols.

12. (New) The article of manufacture of claim 9, wherein the N symbols are ordered such that there are n1 type 1 symbols, followed by 1 type 2 symbol, followed by n3 type 3 symbols, followed by 1 type 2 symbol.

13. (New) The article of manufacture of claim 9, wherein first direction is downstream and second direction is upstream.

14. (New). A method of initializing a discrete multitone system with a hyperframe in a communication circuitry including a signal processor, comprising:

determining the allowed set of PSD masks for first and second directions of type 1, type 2 and type 3 symbols;

determining a target data rate for the first and second directions;

including type 1 and type 3 symbols in the SNR measurement phase;

performing a bit loading for the type 1, type 2 and type 3 symbols to determine the data rates supported in the first and second directions for each type of symbol; and

signal processor manufacturing the hyperframe, said manufacturing comprising:

choosing all type 1 symbols if the type 1 symbol is able to meet the target data rates for the first and second directions; and

choosing a mix of type 1, type 2 and type 3 symbols to most closely meet the target data rates for the first and second directions if all type 1 symbols are unable to meet the target data rate.